Baton Rouge Community College

Academic Affairs Master Syllabus

Date Approved or Revised: July 24, 2008

Course Name: Physical Geology
Course Number: GEOL 101

Lecture Hrs. 3 **Lab Hrs. 0** **Credit Hrs. 3**

Course Description: Covers Earth materials and land forms; processes at work on and within the Earth. Topics include igneous activity, volcanoes, metamorphism, weathering and erosion, deposition of sediment, the formation of sedimentary rocks, mountain building, earthquakes, glaciation, streams, and oceans.
Prerequisites: None
Co-requisites: None

Suggested Enrollment Cap: 35

Learning Outcomes: Upon successful completion of this course, the student will be able to:

- Explain the origin and history of the earth and solar system from a geological perspective;
- Describe planetary differentiation;
- Explain the formation of the continents, oceans, and atmosphere from a geological perspective;
- Explain plate tectonics;
- Describe the material of the earth: minerals, rocks;
- Apply knowledge of radiometric dating techniques to date rocks and identify geological time period;
- Describe surface processes: hydrologic cycle and the ground water system, rivers, glaciers;
- Identify the structure of the ocean basin, defining seawater and deep sea sediments;
- Describe internal processes and explain global tectonic processes, volcanism, earthquakes;
- Describe the interior structure of the earth; and
- Contrast mountain building and deformation of the crust

General Education Learning Outcomes: This course supports the development of competency in the following areas. Students will:

- Think critically, collect evidence (statistics, examples, testimony) and make decisions based on the evidence, comprehend and analyze texts, and solve problems using methods of critical and scientific inquiry;
- Communicate effectively using standard written English; and
- Relate the general concepts of science to the world and demonstrate an understanding of the impact of these processes and their concepts on human lives.

Assessment Measures: Assessment of all learning outcomes will be measured using the following methods:

- Department-designed exams will collectively assess a portion of the learning outcomes and will be administered during the semester as listed in a department-generated schedule;
- A department-designed mid-term exam will cover a portion of the learning outcomes; a department-designed final exam will cover another portion of the learning outcomes and will be given at the end of the semester; and
- Individual instructor-designed or collaborative instructor-designed assignments will assess a portion of the learning outcomes and will be given as a portion of the total grade. Assignments will include oral and written assignments, projects, homework, and quizzes; at least one assignment will be graded using a common rubric.

Information to be included on the Instructors' Course Syllabi:

- ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.

- ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor's and/or the department's policy for make-up work. For example in a speech course, "Speeches not given on due date will receive no grade higher than a sixty" or "Make-up work will not be accepted after the last day of class."

- ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.

- ***General Policies*:** Instructors' policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.

- ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.

- ***Safety Concerns:*** In some programs this may be a major issue. For example, "No student will be allowed in the safety lab without safety glasses." General statements such as, "Items that may be harmful to one's self or others should not be brought to class."

- ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

Expanded Course Outline:

I. The origin and history of the earth

A. Origin of the solar system

B. Evolution of Earth

Planetary differentiation

Formation of continents, oceans, and atmosphere

II. Plate tectonics - the unifying theory of earth science

III. The material of the earth

A. Minerals

Chemical bonding, properties, rock forming minerals

B. Rocks

Magmas and igneous rocks

Weathering and sedimentary rocks

Metamorphism and metamorphic rocks

C. Rock record and geological time scale

IV. Surface processes

A. Hydrologic cycle and the ground water system

B. Rivers

Transport of material to the ocean

Stream deposition

Coastal land loss

C. Glaciers and ice ages

D. The oceans

The structure of ocean basin

Seawater

Deep Sea sediments

V. Internal processes

A. Global tectonic processes

Continental drift

Seafloor spreading

B. Volcanism

C. Earthquakes

D. The interior structure of the earth

E. The continents

Mountain building

Deformation of the crust